

	interracei	Interrace 2	interrace 3
Frequency Response ± 3 dB:	56 to 18,000 Hz	47 to 18,000 Hz	40 to 18,000 Hz
Beamwidth, 500-8,000 Hz Octave Bands: 12,500 Hz 1/3 Octave Band:	125° ± 30° 75°	125° ± 30°	125° ± 30° 75°
Long Term Average Power	, ,	, 5	,,
Capacity*:	50 watts	50 watts	50 watts
Short Term Power Capacity			
(10 m/sec):	200 watts	200 watts	200 watts
Maximum Midband Acoustic			
Output Power:	.33 watts	.33 watts	.33 watts
Sound Pressure Level (1 m/1w):	92 dB	92 dB	92 dB
Impedance,			
Nominat:	8 ohms	8 ohms	8 ohms
Minimum:	5 ohms	5 ohms	5 ohms
Half-Space Reference Efficiency:	1.3%	1.3%	1.3%
Crossover Frequencies,			
Acoustic:	79 Hz	66 Hz	57 Hz
Electrical:	1500 Hz	1500 Hz	1500 Hz
Dispersion,	H V	HV	H V
1000:	124° × 129°	122° x 135°	89° x 101°
2000:	174° x 176°	149° × 162°	180° x 178°
4000:	160° × 162° 76° × 94°	161° × 163°	176° × 169°
8000:		86° x 85°	101° x 84°
Transducer Compliment:	8 in, Midrange/ Woofer	8 in, Midrange/ Woofer	8 in, Midrange/ Woofer
	1-1/2 in, Super	1-1/2 in, Super	1-1/2 in Super
	Dome tweeter	Dome tweeter	Dome tweeter
	200 14400101	10 in, low freq.	12 in, low freq.
		radiator	radiator
Finish:	Simu	lated Walnut-Grained	Vinvl
Dimensions,	-		, -
Height:	28.9 cm (11,38 in.)	34.9 cm (13.75 in.)	37.5 cm (14.75 in.)
Width:	54.0 cm (21.25 in.)	61.6 cm (24.25 in.)	64,1 cm (25,25 in.)
Depth:	24.6 cm (9.69 in.)	27.1 cm (10.69 in.)	33.3 cm (13.13 in.)
Net Weight:	10.4 kg (23 lbs)	11,3 kg (25 lbs)	15 kg (33 lbs)

Interface1

Interface 2

Interface 3

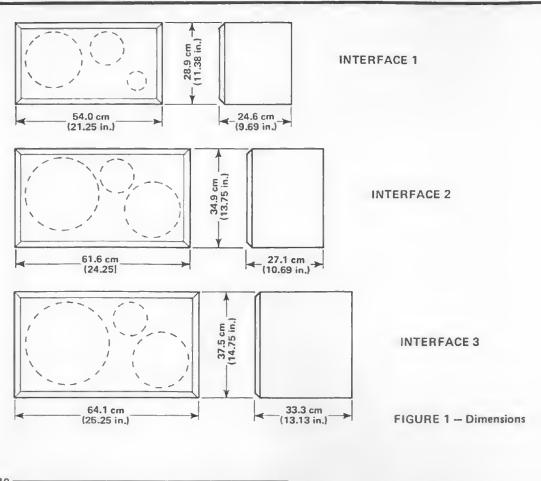
SPECIFICATIONS

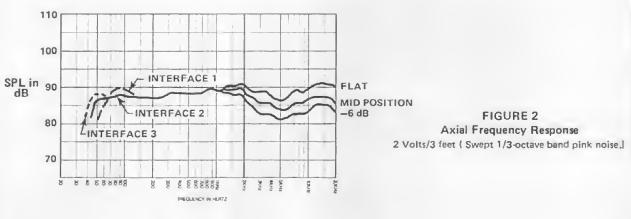
## DESCRIPTION

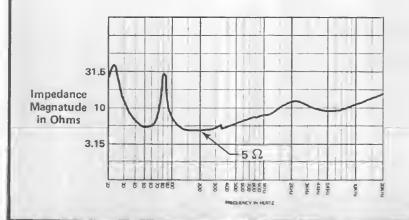
The Interface 1, 2 and 3 are successful, high quality, wide-range speaker systems designed to reproduce music with true accuracy and low distortion. Now, sound consultants and engineers have efficient, dependable quality speaker systems that can be specified with confidence in lounges, restaurants, corporate board rooms and other intimate locations that deserve the elegance of a simulated walnut-grained vinyl enclosure.

Each Interface® system uses an impressive 8-inch midrange/woofer, and a Super Dome™ tweeter, in a scientifically designed "optimally vented" enclosure based on the theories and proven technology originated by the Australian scientist, A. N. Thiele.

The lowest octave (or so) of the system's bass response is reproduced by the vent (Interface 1) or vent substitute (Interface 2 and 3). As the frequency lowers, the excursion of the 8-inch woofer actually decreases since a relatively small movement is required to drive the vent (or vent substitute) to full output. This gives these systems better transient response, lower distortion and 6 dB higher efficiency than ordinary acoustic suspension speakers. Therefore, more modest power amplifiers may be employed, providing a real cost savings.

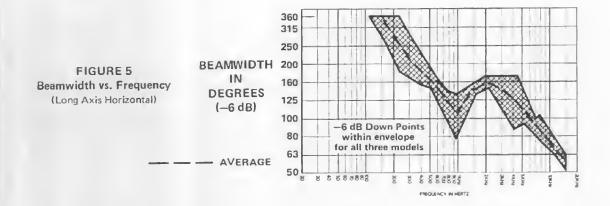


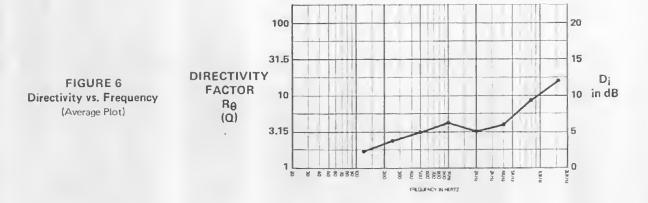




# FIGURE 3 Impedance vs. Frequency (Representative of all Models above 100 Hz, Interface 1 shown)

# LEVEL ADJUSTED 2 Volts/3 feet Anechoic Environment FIGURE 4 Interface 2 Polar Response Octave Bands of Pink Noise, Long Axis Horizontal (Representative of all Models with only minor deviations.) SCALE IS 5 DECIBELS 1000 Hz -2000 Hz -PER DIVISION 4000 Hz - -8000 Hz • • • • • HORIZONTAL **VERTICAL**





The Super Dome tweeter, known for its superior sonic quality and wide uniform dispersion, has two to four times the efficiency of a typical dome tweeter. Additionally, it has an amazing 25-watt long-term power-handling capacity which is five times the rating of most conventional tweeters. This means freedom from fear of tweeter "burnouts" and complex fusing arrangements.

## POWER HANDLING CAPACITY

To our knowledge, Electro-Voice was the first U.S. manufacturer to develop and publish a power test closely related to real-life conditions. First, we use a random noise input signal because it contains many frequencies simultaneously, just like real voice or instrument program. Second, our signal contains more energy at extremely high and low frequencies than typical actual program, adding an extra measure of reliability. Third, the test signal includes not only the overall "long-term average" or "continuous" level - which our ears interpret as loudness - but also shortduration peaks which are many times higher than the average, just like actual program. The long-term average level stresses the speaker thermally (heat). The instantaneous peaks test mechanical reliability (cone and diaphragm excursion). Note that the sine wave test signals sometimes used have a much less demanding peak value relative to their average level. In actual use, long-term average levels exist from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

Specifically, the Interface 1, 2, and 3 are designed to withstand the power test described in the revised EIA Standard RS-426A. The EIA test spectrum is applied for eight hours. To obtain the

spectrum, the output of a white noise generator (white noise is a particular type of random noise with equal energy per bandwidth in Hz) is fed to a shaping filter with 6-dB-per octave slopes below 40 Hz and above 318 Hz. When measured with the usual constantpercentage bandwidth analyzer (onethird octave), this shaping filter produces a spectrum whose 3-dB-down points are at 100 Hz and 1200 Hz with a 3-dB-per octave slope above 1200 Hz. This shaped signal is sent to the power amplifier with the continuous power set at 50 watts into the 5 ohms EIA equivalent impedance, (15.8 volts true RMS). Amplifier clipping sets instantaneous peaks at 6 dB above the continuous power, or 200 watts peak (31.6 volts peak). This procedure provides a rigorous test of both thermal and mechanical failure modes.

## ARCHITECTS' AND ENGINEERS' **SPECIFICATIONS**

The systems shall be two-way, fullrange, vented direct radiator systems utilizing an 8-inch woofer/midrange and 1-1/2-inch Super Dome tweeter. (The Interface 2 and 3 incorporate a 10-inch and 12-inch vent substitute, respectively.) The cabinet shall be particle board construction covered with quality simulated walnut-grained vinyl and a dramatic dark-brown grille treatment. Frequency response shall be 56 to 18,000 Hz for the Interface 1, 47 to 18,000 Hz for the Interface 2, and 40 to 18,000 Hz for the Interface 3 within ± 3 dB. Power handling shall be 50 watts using the revised EIA Standard RS-426A. Nominal impedance is 8 ohms and minimum impedance is 5 ohms. Sound pressure level with one watt measured at one meter shall be 92 dB.

# WARRANTY (Limited) -

Electro-Voice Loudspeakers, Speaker Systems, and accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, burned coils, or other malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For further information about applications refer to the Electro-Voice publication, "The Electro-Voice Guide to Commercial Sound Reinforcement and Public Address Systems", available without charge by writing. Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107.

For repair information and service locations, please write: Service Dept., Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Ave., Visatia, California 93277 (Phone: 209/651-7777).

Electro-Voice also maintains complete facilities for non-warranty service of EV products.

Specifications subject to change without notice.

# E. VOICE COIL SPECIFICATIONS

1.504 Inches (38.2 MH) .530 Inches (13.96 MM) .3.6 to 4.0 Ohms .4 mh	6 Ohms	#30	Copper	Round	Nom. 01a: .010 Inches (.254	465 Inches (II.8II Meters)	Formvar
NOMINAL DIAMETER	NOMINAL IMPEDANCE	GAUGE	MATERIAL	CROSSECTIONAL SHARE	CROSSECTIONAL SIZE	LENGTH (PHYSICAL)	INSULATION

N/A 8 Screws on 7-3/4 Inch Dia. Circle

FIRE CROSSOVER.

CROSSOVER.

BAFFLE CUTOUT:

REAR HOUNT.

7-1/4 Inches

\*\*ONT MOUNT.

5 Pounds

N/A

8 Inches Cadmium Chromate Plating Spade/Solder Lug

TYPE OF TERMINAL...

Woofer

TYPE....

A. GENERAL SPECIFICATIONS

HODEL NAME: CUSTONER: Ŧ

# F. OPTIAL SPECIFICATIONS

Sliver Plated Tinsel

AVC, Eppxy

ADNESIVES.....

Steel Stamping Resin Impregnated Cloth Felted Paper Fiber

FRAME:

HATERIALS

.

SPIDER.....

INSULATION..... FORM

48 Hz (38 Hz Nominal)	q	atts filtered pink nol:	9
32 -	P +4	25 W	83 d
FREE-AIR RESONANCE 32 - 48 Hz (38 Hz Nominal)	E.I.A. SENSITIVITY NATING:	THERMAL POWER HANDLING CAPACITY:	SPI AT 10 FT WITH I WATT INPITE.

# G. IHIELE PARAMETERS (Referred to Mominal Resonance Frequency)

DOME..... Felted Paper Fiber MOVING SYSTEM MECHANICAL SPECIFICATIONS

PROPAGATOR.....

٠,

Tin Plated Brass

BAFFLE GASKET ..... TERMINALS..... SURRO UNO.....

Foam

38 Hz 2.80 .40	4000 In3 (6.56 X 10-2 M3)	. 18 Inch (4.6 MM) 6 In <sup>3</sup> (3.87 X 10 <sup>-3</sup> M <sup>3</sup>	6.5 in (.165 M) 4.352
PREE-AIR RESONANCE FREQUENCY (Fs) 38 Hz HECHANICAL Q (Qms) 2.80 ELECTRICAL Q (Qss) 40	TOTAL Q (Qts)	PEAK LINEAR EXCURSION (Xmax)	EFFECTIVE OLAMFTER

# H. SPECIAL CHARACTERISTICS

.235 Inches (5.97 MM)
.055 Inches (1.34 MM)
.9250 Gauss (.92 Testa)
.05,000 Maxwells Minimum
I.723 Square Inches (I.11 X 10<sup>-3</sup> M<sup>2</sup>)

FLUX OENSITY......
TOTAL FLUX......
POLE FACE AREA.....

LENGTH

6.4 Tesla Meters

(BL PRODUCT) ....:

Ceramic Low Carbon-Steel 550 Grams

MAGNET CIRCUIT....:

MAGNETIC SPECIFICATIONS

0

HATERIALS:

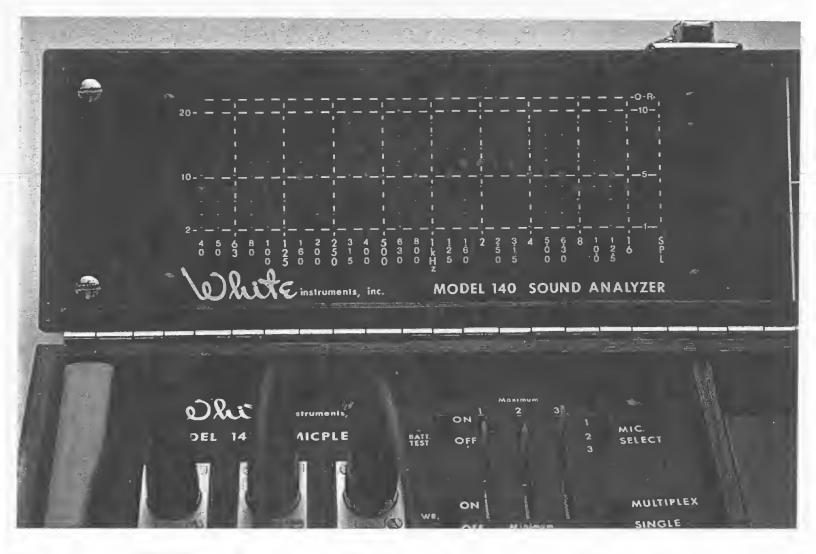
A ALL OID INCHES AXX XXX XXX CO CO CO CO
--

			I		
37	Gulton	ton	EL	ELECTRO-VOICE, INC	O :
1	TITLE	LOUDSPEAKE FOR MODEL:	SAKE)	TITLE LOUDSPEAKER SPECIFICATION SHEET FOR HOUEL:	-
	SCALE			MODEL FIRST USED DN	240
	O RN	0	DATE		
	СКО	0	ATE	DATE PRODUCTION NO. 88938 A	A E
	ENOM	٥	DATE		:
	Cultur	CALLAN 2-28-78	78		

EXPERIMENTAL NO.

# Interface:1,2,3





# The best thing you can say about a speaker is that it's accurate.

At Electro-Voice, we don't believe in "rock" or "classical" speakers. We make accurate speakers. Speakers that reproduce music without adding (or subtracting) a thing. That's what hi-fi is all about.

All manufacturers don't adhere to that goal. Some boost the bass to impress you or put a peak in the midrange so vocalists have more "presence." It may sound impressive at first, but in the long run it's irritating. A guitar shouldn't sound like a big string bass and a vocalist should be able to sound just as subtle or gutsy as he wants to—without any interference from the speaker.

To make sure our speakers are accurate, we do some pretty sophisticated things. For instance, we researched the effect of the woofer's suspension on sound quality. We found that the floppy suspension on most speakers causes the woofer to "wobble" with subsonic record noise. That causes unnecessary midrange distortion. So, in the Interface:1, 2 and 3, we stiffened the suspension slightly. It's a small thing, but it makes our speakers more accurate.

The challenge

Accuracy also means something else—if you've really done a good job, all your speakers should sound alike. Sure, an expensive speaker will have deeper bass and maybe smoother response, but the overall character of the sound should be very much the same. After all, accurate speakers should have no sound of their own.

In that respect, the entire Interface line is extraordinary. Our least expensive speaker, the Interface:1, should sound very much like our most expensive, the Interface:D. And it does, which is a nice thing to know.

The Interface:1, 2 and 3 sound virtually identical. And they should. All three use the same basic midrange/woofer, tweeter and crossover. The major difference is bass response. The larger enclosures of the Interface:2 and 3 and the use of a low-frequency radiator significantly extend the bass response. In fact, the Interface:3 is capable of reproducing the lowest fundamental notes found on most

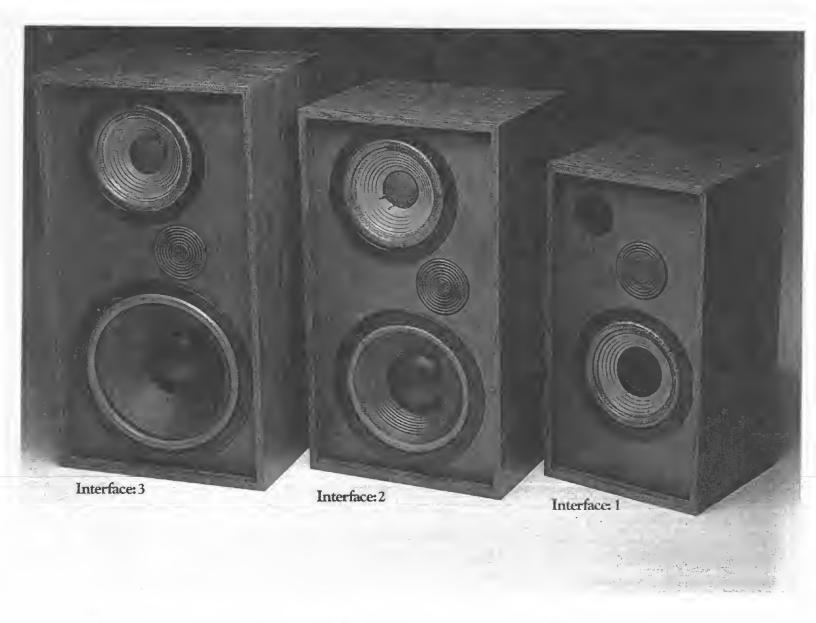
commercial recordings. With response down to 34 Hz, it has bass you can feel as well as hear.

The proof

The photo above shows an actual room curve of an Interface: 3. Using a White one-third octave real time analyzer and random noise generator, it represents the way the speaker actually sounds in a typical listening room. It unifies a lot of speaker characteristics—axial frequency response, uniform dispersion, low and high-frequency limits and overall smoothness of response. Looking at the red LED's as points on a frequency response curve, you can see that the Interface: 3's sound is smooth and extended.

Both Interface:1 and 2 can reproduce exactly this kind of exceptionally smooth response when put to the same test.

The only better proof is what your own ears tell you.



# Interface: 1 – better performance at a lower price.

The Interface:1 is the least expensive speaker in our line, but don't let the price fool you. It offers the same kind of high efficiency, accuracy and wide dynamic range as our more expensive Interface speakers.

That's not surprising since it uses the same woofet and tweeter as the more expensive Interface:A and B. That's ptetry startling in a low-cost speaker—it uses the same drivers as a speaker that costs more than three times as much!

And like all Interface speakers, the Interface:1 uses sophisticated Thiele technology. So Interface:1 combines the advantages of an 8" midrange (wide dispersion and smooth tesponse) with bass fully equal to many 10" or 12" two-way systems. In the lowest part of its frequency range, the air in the vent is energized by the

8" midrange/woofer. A very small motion of the cone causes a large piston-like movement of the air in the vent. The resulting bass is astonishing from a small speaker—just 21¼" x 11½" x 10½".

Unlike most small speakers, the Interface: I isn't intimidated when it's asked to reproduce music at near-live volume. Its 107dB maximum output exceeds that of any competitive speaker we've ever heard. And it's so efficient that even a small amplifier or receiver can drive it to room-filling volume.

So if you're trying to get the best sound out of your system for the money, we don't think you can do better than the Interface:1.

# **Specifications**

Frequency Response: 44-20,000 Hz; ± 4 dB 54-18,000 Hz, 1 meter on axis

Recommended Amplifier Power: 3.6 watts per channel minimum; 200 watts maximum

Sound Pressure Level: 92 dB at 1 meter, 1 watt in

Midband Sound Pressure Levels in a Typical Listening Room: 90 dB average, 100 dB peak with a 3.6-watt amplifier; 107 dB average, 117 dB peak (10ms) with a 200-watt amplifier

Crossover Frequencies: 76 Hz acoustic; 1500 Hz electrical

Transducers: 8" woofer; 2½" tweeter Impedance: 8 ohms nominal; 5 ohms minimum

Size: 21¼" x 11½" x 10½" hwd Cabinet: simulated walnut-grained vinyl Weight: 23 lbs.

# We think these are the best speakers you can buy for the money.

That's a brash statement—and one you have a right to be suspicious of. But there are some good teasons you should believe Higher efficiency

If you've considered buying an acoustic suspension speaker, you're in for a pleasant surprise. Using exactly the same amplifier power, these Interface speakers will play nearly twice as loud as the acoustic suspension competition!

It isn't black magic, it's our optimally vented design (you can read more about that on the back of this brochure). It makes our speakers 6 dB more efficient than a sealed (acoustic suspension)

That lets your amplifier or receiver operate at lower power (which also means lower distortion). And it leaves power in reserve for short musical peaks (a sudden cymbal crash, or when the music just gets louder).

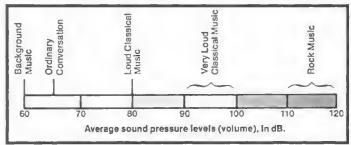
Really, using Interface speakers is like getting an amplifier with four times the power-without paying a penny more. Consider what that means whether you've got 10 or 60 watts.

# More output

Some manufacturers say that a reasonably priced speaker can't be expected to play loud.

We disagree. Our Interface:1, 2 and 3 are very efficient. They prove you can get great performance and loud volume without a large amplifier. Using only 20 watts, they will deliver a sound pressure level of 97 db, with peaks up to 107 dB. Yet they're so rugged they can handle up to 200 watts per channel and deliver peaks up to 117 dB!

That means you can reproduce the volume of live classical music and all but the most ear-shattering rock. Of course you



may not want to play music that loud. But it's nice to know your speakers can still play loud and sound as beautiful as ever.

## Bass, not boom

Most moderately-priced speakers make fantastic frequency response claims. That's all they are, though, just claims. Our specifications are honest, and they accurately represent the speakers' performance.

Every Interface speaker produces deep honest bass. That may fool you on first listen. You see, a lot of speakers (especially bass reflex systems) boost response around 100 Hz. It gives everything a little extra umph—whether it had umph to start with

We believe in accurate bass. You won't hear bass that isn't there, but you'll definitely hear (and feel) the bass that is.

# Low distortion

As we explain on the back page of this brochure, acoustic

suspension speakers and bass reflex systems typically have four times more distortion at low frequencies than the Interface:1, 2 and 3. It's another reason these Interface systems are clearly superior to other speakers.

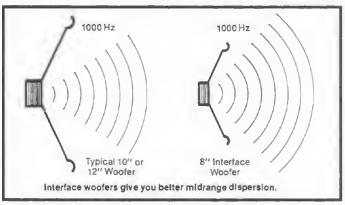
# Does it sound like music?

Of course bass is a small but important part of music. So we've devoted the same kind of attention to the mid and high frequencies. We use the same tweeter in all three of these Interface speakers. If you want to know how good it is, it's exactly the same one used in our much more expensive Interface: A and B.

The Interface:1, 2 and 3 also use an impressive 8" midrange/ woofer developed for the Interface: A and B. In this "a bigger speaker is better" world, an 8" speaker may seem pretty small. But it has some unique advantages over a 10" or 12" woofer. First, it



really doesn't need to be that large since our vent or lowfrequency radiator actually reproduces the lowest bass. Second, an 8" driver provides smooth, well-dispersed midrange response that no 10" or 12" speaker can match. We could have used a larger woofer, but the speakers wouldn't have sounded as good.



We've devoted a lot of attention to little things that give the Interface:1, 2 and 3 a big edge on the competition. They're efficient, so you'll get more and better sound without buying a more expensive amplifier. They have an exceptional power handling capacity. And they're the only speakers we know of in their price range that can actually reproduce live performance volumes in your home. They've got deep bass, low distortion and the kind of natural, accurate sound that make music sound real.

So if you're looking for the best speakers your money can

buy, you'll want an Interface speaker.

# Before you build great speakers, you've got to have a system.

Most speakers use one of two basic design systems. The first, acoustic suspension, uses a sealed enclosure. The second, bass reflex, is characterized by a hole (also called a vent, duct or port) in the enclosure.

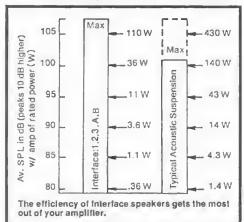
Both systems have definite weaknesses. Acoustic suspension speakers can provide good bass response only if they are inefficient; and, they demand such long cone excursions that distortion is inherently high. So, they demand lots of amplifier power and even then they "color" the sound. Bass reflex speakers are typically more efficient, but lack deep bass, and suffer from bumps in their response curve.

A better way

Electro-Voice pioneered a third way to design speakers. We call it "optimally vented design," and every Interface speaker uses it. It's based on the sophisticated scientific analyses of an Australian scientist named A. N. Thiele (pronounced Teel). And this way of designing speakers has so many advantages, it makes the other systems obsolete.

Efficiency

Every Interface speaker is at least 6 dB more efficient than an acoustic suspension speaker. That means one watt into an Interface speaker produces exactly the same

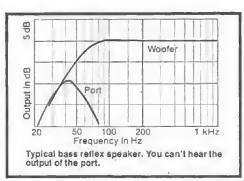


volume as four watts into an acoustic suspension system. Imagine what that means ... whether you've got a 15 or 60-watt amplifier!

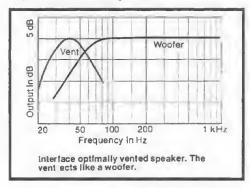
Bass ... really

Here's a typical bass reflex frequency response curve. The red parabola is the acoustic output of the port. Unfortunately, its volume is so far below the woofer's that ir adds little, if any, audible bass.

But in an optimally vented Interface



speaker, the output of the vent matches the woofer's output. So the vent actually acts like a second woofer which significantly improves the bass response.



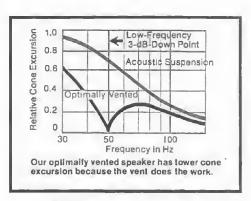
# How can a hole do that?

At mid and high frequencies, the air in the vent is too heavy to move. But, if the speaker has been optimally designed, a very small movement by the woofer at low frequencies produces a very large movement of the air in the vent. The air in the vent moves in and out like a piston (exactly like a speaker cone).

So Interface speakers provide exceptional bass no bass reflex system can match. And an acoustic suspension system would have to be four times the size of a vented and equalized Interface speaker just to have the same bass response and efficiency. Those aren't opinions, they're scientific facts. It's part of our system.

## Low distortion

This chart shows that an acoustic suspension or bass reflex woofer has to move farther and farther to reproduce lower frequencies. So distortion goes higher and higher. But an optimally vented woofer's excursion actually decreases at lower frequencies. The vent does most of the work, leaving the woofer free to handle the important upper bass and midrange. That means lower distortion and more accurate sound.



Wide dynamic range

Interface speakers are rugged as well as efficient. So you can play your music at a realistic volume if you want to. And you'll have amplifier power left to reproduce musical peaks—like the thump of a kick drum or the attack of a brass ensemble. Instead of distortion (or a burned out speaker) you'll hear the effortless, natural sound of live music.

Accuracy

We've also designed accuracy into every Interface speaker. We've paid close attention to crossovers, smooth frequency response, wide dispersion, uniform total acoustic power output, and much more. We don't believe in the "east coast/west coast sound" or in "rock" or "classical" speakers. We make accurate speakers—speakers that sound like music.

Why buy any other speaker?

Our optimally vented "system" gives Interface speakers a lot of advantages—efficiency, wide dynamic range, deep bass, low distortion and accuracy. So if you're serious about getting the best sound for your money, you want Interface speakers.



# Interface. A generation ahead.



600 Cecil Street, Buchanan, Michigan 49107